*Forecasting the weather
- ensemble techniques
in probabilistic weather prediction*

On the choice of thresholds to give warnings

C. Primo

DWD, Germany (cristina.primo@dwd.de)

To be able to give a warning that a high impact event will happen, warning systems usually convert probabilistic forecasts into binary forecasts by choosing a threshold. If the forecast probability is above the threshold, the system sends a warning. Hence, the choice of the threshold plays an important role. By doing some previous verification, one could have guidelines on how to choose such threshold depending on the event of interest or user requirements.

The contingency table obtained from the warnings and the observed event varies according to the choice of the threshold. Very low thresholds make the system give more warnings, increasing the number of false alarms, whereas high values have the opposite effect, increasing the number of misses. In addition, user priorities are different, and some users penalize more the false alarms while others penalize more the misses. Thus, forecasters have to establish a criterion that depends on the event and user requirements.

In this talk, verification of warning events given by the WarnMOS system at DWD will be presented, and the role of the choice of threshold will be addressed. Two different events will be considered to show results on continuous variables (wind) and binary events (thunderstorms).